

APPENDIX I

PATENT ABSTRACTS OF JAPAN

(11)Publication number : **63-162685**

(43)Date of publication of application : **06.07.1988**

(51)Int.Cl.

C07D311/62

(21)Application number : **61-308098**

(71)Applicant : **KIKKOMAN CORP**

(22)Date of filing : **26.12.1986**

(72)Inventor : **ARIGA TOSHIKI
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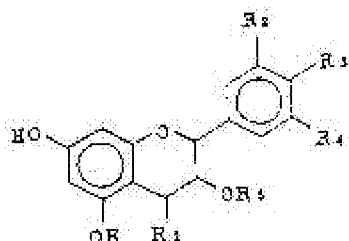
(54) PRODUCTION OF PROANTHOCYANIDIN

(57)Abstract:

PURPOSE: To easily obtain the titled substance useful as antioxidant, raw material for pharmaceuticals, etc., from a proanthocyanidin-containing liquid in high yield, by using a PS resin as an adsorbent resin and eluting the adsorbed component with a polar solvent at a specific temperature.

CONSTITUTION: A liquid containing proanthocyanidin [e.g. a 2W10-mer containing the unit of formula (R1 is H or OH; R2WR4 are H, OH, methoxy, etc.; R5 is H, galloyl or glycopyranosyl) as a constituent unit] which is obtained generally by the extraction of various vegetables with an aqueous medium is adsorbed to a PS resin. The resin is washed with a polar solvent at $\leq 50^{\circ}\text{C}$ (usually at $0\text{W}50^{\circ}\text{C}$) and then the adsorbed component is eluted with a polar solvent at $\geq 60^{\circ}\text{C}$ (preferably at $80\text{W}150^{\circ}\text{C}$) to obtain the objective proanthocyanidin. The polar

solvent used in the above processes is preferably water or a mixture of water and 20% ethanol, methanol, propanol, etc.



APPENDIX II

PATENT ABSTRACTS OF JAPAN

(11)Publication number : **03-200781**

(43)Date of publication of application : **02.09.1991**

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C07D311/62

(21)Application number : **01-338387**

(71)Applicant : **KIKKOMAN CORP
MANZUWAIN KK**

(22)Date of filing : **28.12.1989**

(72)Inventor : **ARIGA TOSHIKI
HAMANO MITSUTOSHI
MOTAI HIROSHI
YATSUSU SUMUTO
YAMADA MUNEKI
MIYAJI MICHIO**

(54) **PRODUCTION OF PROANTHOCYANIDIN**

(57)Abstract:

PURPOSE: To readily obtain the subject compound useful as a raw material, etc., for producing antioxidants or deodorants used in foods or cosmetics, medicines, etc., in high purity and good yield using simple operation by extracting grape pomaces, etc., with water at a specific temperature or above.

CONSTITUTION: Grape pomaces or seeds are brought into contact with water, preferably at $<70^{\circ}\text{C}$, pretreated and then extracted with water at $\geq 70^{\circ}\text{C}$ to afford the objective compound.

APPENDIX III

PATENT ABSTRACTS OF JAPAN

(11)Publication number : **02-048593**

(43)Date of publication of application : **19.02.1990**

(51)Int.Cl. **C07G 17/00**

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(21)Application number : **01-165135** (71)Applicant : **TECNOFARMACI SPA
INDENA SPA**

(22)Date of filing : **27.06.1989** (72)Inventor : **FRANGI ENRICO
BERTANI MARCO
MUSTICH GIUSEPPE
TUCCINI GIANFRANCO**

(30)Priority

Priority number : **88 21134** Priority date : **28.06.1988** Priority country : **IT**

(54) **PROCYANIDOL OLIGOMER FRACTION, ITS PREPARATION AND MEDICINE COMPOSITION CONTAINING THIS**

(57)Abstract:

PURPOSE: To obtain with a good yield the new subject fraction which exhibits extremely excellent action as a remedy for diseases of cardiovascular system and hardly contains a monomer by performing ultrafiltration of plant extract with two kinds of membranes each with a specified cutoff.

CONSTITUTION: At first, after plant extract obtd. by a well known method is treated by water deposition, it is treated for ultrafiltration with a membrane with a cutoff of 1,000-100,000 to remove high mol.wt. substance. Then, by performing ultrafiltration treatment of the ultrafiltration-treated product with a membrane with a cutoff of smaller than 3,000, to remove a monomer to obtain an aimed fraction contg. flavanol monomer of less than 5 wt.%. In addition, it is pref. that the membrane with a cutoff of 1,000-100,000 is under tubular or capillary condition and as a membrane with a cutoff of less than 3,000, a coil-shaped spiral membrane is pref. used.
